
Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2007; month=12; day=13; hr=9; min=43; sec=6; ms=958;]

Validated By CRFValidator v 1.0.3

Application No: 10077624 Version No: 3.0

Input Set:

Output Set:

Started: 2007-11-26 09:38:22.663 **Finished:** 2007-11-26 09:38:26.354

Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 691 ms

Total Warnings: 28
Total Errors: 0

No. of SeqIDs Defined: 31
Actual SeqID Count: 31

| Error code | | Error Description | | | | | | | | | |
|------------|-----|-------------------|----|---------|-------|----|-------|----|-----|----|------|
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (1) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (3) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (4) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (5) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (6) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (7) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (8) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (9) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (10) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (11) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (12) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (13) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (14) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (17) |
| M | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (18) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (19) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (20) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (21) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (22) |
| W | 213 | Artificial | or | Unknown | found | in | <213> | in | SEQ | ID | (23) |

Input Set:

Output Set:

Started: 2007-11-26 09:38:22.663

Finished: 2007-11-26 09:38:26.354

Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 691 ms

Total Warnings: 28

Total Errors: 0

No. of SeqIDs Defined: 31

Actual SeqID Count: 31

Error code Error Description

This error has occured more than 20 times, will not be displayed

SEQUENCE LISTING

```
<110> Shi, Wenyuan
      Morrison, Sherie
      Trinh, Kham
      Wims, Letitia
      Chen, Li
      Anderson, Maxwell
      Qi, Fengxia
<120> Anti-Microbial Targeting Chimeric Pharmaceutical
<130> 59157.8007.US01
<140> 10077624
<141> 2002-02-14
<150> US 09/910,358
<151> 2001-07-19
<150> US 09/378,577
<151> 1999-08-20
<160> 31
<170> PatentIn version 3.4
<210> 1
<211> 563
<212> DNA
<213> Artificial sequence
<220>
<223> Histatin 5/linker peptide/SWLA3 VH chain construct synthesized
      using sequential PCR techniques
<220>
<221> misc_feature
<222> (69)..(140)
<223> Histatin 5 peptide
<220>
<221> misc_feature
<222> (141)..(188)
<223> Glycine/serine linker peptide
<400> 1
ggatatccac catggacttc gggttgagct tggttttcct tgtccttact ttaaaaggtg
                                                                     60
tccagtgtga tagccacgct aagcggcacc acggatataa gcggaagttc cacgagaagc
                                                                    120
accactegea cagaggatae tetggtggeg gtggeteggg eggaggtggg tegggtggeg
                                                                    180
                                                                    240
gcggatccga cgtgaagctt gtggagtctg ggggaggctt agtgaaccct ggagggtccc
```

```
300
tgaaactctc ctgtgcagcc tctggattca ctttcagtag ctataccatg tcttgggttc
gccagactcc ggagaagagg ctggagtggg tcgcatccat tagtagtggt ggtacttaca
                                                                    360
cctactatcc agacagtgtg aagggccgat tcaccatctc cagagacaat gccaagaaca
                                                                    420
                                                                    480
ccctgtacct gcaaatgacc agtctgaagt ctgaggacac agccatgtat tactgttcaa
gagatgacgg ctcctacggc tcctattact atgctatgga ctactggggt caaggaacct
                                                                    540
                                                                    563
cagtcaccgt ctcttcagct agc
<210> 2
<211> 24
<212> PRT
<213> Homo sapiens
<400> 2
Asp Ser His Ala Lys Arg His His Gly Tyr Lys Arg Lys Phe His Glu
               5
                                 10
Lys His His Ser His Arg Gly Tyr
           20
<210> 3
<211> 16
<212> PRT
<213> Artificial sequence
<220>
<223> Linker peptide used to separate antimicrobial peptides from
      antibody VH chains in chimeric antibody fusion protein constructs
<400> 3
Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
              5
<210> 4
<211> 165
<212> PRT
<213> Artificial sequence
<220>
<223> Histatin 5/linker peptide/SWLA3 VH chain construct synthesized
      using sequential PCR techniques
<220>
<221> MISC_FEATURE
<222> (1)..(24)
```

<223> Histatin 5 peptide

```
<220>
<221> MISC_FEATURE
<222> (25)..(40)
<223> Glycine/serine linker peptide
<400> 4
Asp Ser His Ala Lys Arg His His Gly Tyr Lys Arg Lys Phe His Glu
1 5 10 15
Lys His His Ser His Arg Gly Tyr Ser Gly Gly Gly Ser Gly Gly
    20 25
Gly Gly Ser Gly Gly Gly Ser Asp Val Lys Leu Val Glu Ser Gly
  35 40 45
Gly Gly Leu Val Asn Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala
 50
         55
                      60
Ser Gly Phe Thr Phe Ser Ser Tyr Thr Met Ser Trp Val Arg Gln Thr
65 70 75 80
Pro Glu Lys Arg Leu Glu Trp Val Ala Ser Ile Ser Ser Gly Gly Thr
      85 90 95
Tyr Thr Tyr Tyr Pro Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
      100 105 110
Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln Met Thr Ser Leu Lys Ser
115 120 125
Glu Asp Thr Ala Met Tyr Tyr Cys Ser Arg Asp Asp Gly Ser Tyr Gly
          135
                      140
  130
```

Val Ser Ser Ala Ser 165

<210> 5 <211> 533 <212> DNA <213> Artificial sequence

```
<220>
```

<220>

<223> Dhvar 1/linker peptide/SWLA3 VH chain construct synthesized using sequential PCR techniques

```
<220>
<221> misc_feature
<222> (69)..(110)
<223> Dhvar 1 peptide
<220>
<221> misc_feature
<222> (111)..(158)
<223> Glycine/serine linker peptide
<400> 5
ggatatccac catggacttc gggttgagct tggttttcct tgtccttact ttaaaaggtg
                                                                      60
tccagtgtaa gcggctgttt aaggagctca agttcagcct gcgcaagtac tctggtggcg
                                                                     120
gtggctcggg cggaggtggg tcgggtggcg gcggatccga cgtgaagctt gtggagtctg
                                                                     180
ggggaggett agtgaaccet ggagggteee tgaaactete etgtgeagee tetggattea
                                                                     240
                                                                     300
ctttcagtag ctataccatg tcttgggttc gccagactcc ggagaagagg ctggagtggg
tegeatecat tagtagtggt ggtaettaea cetaetatee agacagtgtg aagggeegat
                                                                     360
tcaccatctc cagagacaat gccaagaaca ccctgtacct gcaaatgacc agtctgaagt
                                                                     420
ctgaggacac agccatgtat tactgttcaa gagatgacgg ctcctacggc tcctattact
                                                                     480
atgctatgga ctactggggt caaggaacct cagtcaccgt ctcttcagct agc
                                                                     533
<210> 6
<211> 14
<212> PRT
<213> Artificial sequence
<220>
<223> Synthetic antimicrobial peptide based on histatin 5
<400> 6
Lys Arg Leu Phe Lys Glu Leu Lys Phe Ser Leu Arg Lys Tyr
                                    1.0
<210> 7
<211> 155
<212> PRT
<213> Artificial sequence
```

<223> Dhvar 1/linker peptide/SWLA3 VH chain construct synthesized using sequential PCR techniques

<220> <221> MISC_FEATURE <222> (1)..(14) <223> Dhvar 1 peptide <220> <221> MISC_FEATURE <222> (15)..(30) <223> Glycine/serine linker peptide <400> 7 Lys Arg Leu Phe Lys Glu Leu Lys Phe Ser Leu Arg Lys Tyr Ser Gly 1 5 10 15 Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Asp Val 20 25 Lys Leu Val Glu Ser Gly Gly Gly Leu Val Asn Pro Gly Gly Ser Leu 35 40 45 Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Met 50 55 60 Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val Ala Ser 70 75 65 Ile Ser Ser Gly Gly Thr Tyr Thr Tyr Tyr Pro Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln 100 105 110 Met Thr Ser Leu Lys Ser Glu Asp Thr Ala Met Tyr Tyr Cys Ser Arg 115 120 125 Asp Asp Gly Ser Tyr Gly Ser Tyr Tyr Ala Met Asp Tyr Trp Gly 135 140 130 Gln Gly Thr Ser Val Thr Val Ser Ser Ala Ser 145 150 155 <210> 8

<211> 89 <212> DNA

| <213> | Artificial sequence | |
|---------|---|----|
| | | |
| <220> | | |
| <223> | PCR primer used to generate histatin 5/SWLA3 chimeric antibody | |
| | fusion protein construct | |
| <400> | 8 | |
| | ° cgc acagaggata ctctggtggc ggtggctcgg gcggaggtgg gtcgggtggc | 60 |
| caccact | ege dedgaggaed elelggegge gglygelegg geggagglyg gleggglyge | 00 |
| ggcggat | ccg acgtgaaget tgtggagte | 89 |
| 22 22 | | |
| | | |
| <210> | 9 | |
| <211> | 84 | |
| <212> | DNA | |
| <213> | Artificial sequence | |
| | | |
| <220> | | |
| <223> | PCR primer used to generate histatin 5/SWLA3 chimeric antibody | |
| | fusion protein construct | |
| <400> | 9 | |
| | agt gtgatagcca cgctaagcgg caccacggat ataagcggaa gttccacgag | 60 |
| ggtgttt | agt gryatageta egeraagegg caccaeggar araageggaa griecaegag | 00 |
| aagcaco | cact cgcacagagg atac | 84 |
| , | | |
| | | |
| <210> | 10 | |
| <211> | 74 | |
| <212> | DNA | |
| <213> | Artificial sequence | |
| | | |
| <220> | | |
| <223> | PCR primer used to generate histatin 5/SWLA3 chimeric antibody | |
| | fusion protein construct | |
| < 40.0> | 10 | |
| <400> | 10 cace atggaetteg ggttgagett ggtttteett gteettaett taaaaggtgt | 60 |
| gacaccc | ace alguating gyllgagett gylllectt geoctactt taaaaggigt | 00 |
| ccaatat | gat agcc | 74 |
| 2 2 | | |
| | | |
| <210> | 11 | |
| <211> | 87 | |
| <212> | DNA | |
| <213> | Artificial sequence | |
| | | |
| <220> | | |
| <223> | PCR primer used to generate dhvar 1/SWLA3 chimeric antibody | |
| | fusion protein construct | |
| <100> | 11 | |
| <400> | 11 cctg cgcaagtact ctggtggcgg tggctcgggc ggaggtgggt cgggtggcgg | 60 |
| gillago | sery eyeaayraer ergyrgyegg rygereggge ggaggrgggr egggrggegg | 00 |
| cggatco | cgac gtgaagcttg tggagtc | 87 |
| - | | |

| 40105 | 10 | |
|---------|--|-----|
| <210> | 12 | |
| <211> | 69 | |
| <212> | DNA | |
| <213> | Artificial sequence | |
| <220> | | |
| | PCR primer used to generate dhvar 1/SWLA3 chimeric antibody | |
| .220 | fusion protein construct | |
| | • | |
| <400> | 12 | |
| gtcctt | actt taaaaggtgt ccagtgtaag cggctgttta aggagctcaa gttcagcctg | 60 |
| | | |
| cgcaag | tac | 69 |
| | | |
| <210> | 13 | |
| <211> | 65 | |
| <212> | DNA | |
| <213> | Artificial sequence | |
| | | |
| <220> | | |
| <223> | PCR primer used to generate dhvar 1/SWLA3 chimeric antibody | |
| | fusion protein construct | |
| <400> | 13 | |
| ggatat | ccac catggacttc gggttgagct tggttttcct tgtccttact ttaaaaggtg | 60 |
| | | |
| tccag | | 65 |
| | | |
| <210> | 14 | |
| <211> | 39 | |
| <212> | DNA | |
| | Artificial sequence | |
| | • | |
| <220> | | |
| <223> | PCR primer used to generate histatin $5/SWLA3$ and dhvar $1/SWLA3$ | |
| | chimeric antibody fusion protein constructs | |
| < 40.0> | 1.4 | |
| <400> | 14 gacw gatggggstg ttgtgctagc tgaggagac | 39 |
| rgggrc | gacw gatggggstg ttgtgctage tgaggagae | J 2 |
| | | |
| <210> | 15 | |
| <211> | 18 | |
| <212> | PRT | |
| <213> | Sus scrofa | |
| <100× | 15 | |
| <400> | | |
| Arg Gl | y Gly Arg Leu Cys Tyr Cys Arg Arg Arg Phe Cys Val Cys Val | |
| 1 | 5 10 15 | |

```
<211> 57
<212> DNA
<213> Sus scrofa
<400> 16
aggggaggtc gcctgtgcta ttgtaggcgt aggttctgcg tctgtgtcgg acgagga
                                                                     57
<210> 17
<211> 18
<212> PRT
<213> Artificial sequence
<220>
<223> Synthetic antimicrobial peptide based on Ovis aries SMAP-29
<400> 17
Lys Asn Leu Arg Arg Ile Ile Arg Lys Gly Ile His Ile Ile Lys Lys
                                   10
Tyr Gly
<210> 18
<211> 36
<212> DNA
<213> Artificial sequence
<220>
<223> Forward primer for amplification of protegrin PG-1
<220>
<221> misc_feature
<222> (8)..(15)
<223> SapI restriction enzyme cleavage site
<400> 18
                                                                     36
ggtggttgct cttccaacag gggaggtcgc ctgtgc
<210> 19
<211> 23
<212> DNA
<213> Artificial sequence
<220>
<223> Reverse primer for amplification of protegrin PG-1
<220>
<221> misc_feature
```

<210> 16

```
<222> (3)..(8)
<223> BamHI restriction enzyme cleavage site
<400> 19
                                                                     23
ccggatcctc gtccgacaca gac
<210> 20
<211> 23
<212> DNA
<213> Artificial sequence
<220>
<223> Forward primer for amplification of glycine/serine linker
<400> 20
                                                                     23
ggggatccgg tggcggtggc tcg
<210> 21
<211> 26
<212> DNA
<213> Artificial sequence
<220>
<223> Reverse primer for amplification of glycine/serine linker
<220>
<221> misc_feature
<222> (4)..(9)
<223> ClaI restriction enzyme cleavage site
<400> 21
aacatcgata gatccgccgc cacccg
                                                                     26
<210> 22
<211> 23
<212> DNA
<213> Artificial sequence
<220>
<223> Forward primer for amplification of SWLA3 VL chain
<220>
<221> misc_feature
<222> (3)..(8)
<223> ClaI restriction enzyme cleavage site
<400> 22
ggatcgatgt tgtgatgacc cag
                                                                     23
<210> 23
```

<211> 31

```
<212> DNA
<213> Artificial sequence
<220>
<223> Reverse primer for amplification of SWLA3 VL chain
<220>
<221> misc_feature
<222> (5)..(10)
<223> SalI restriction enzyme cleavage site
<400> 23
                                                                     31
gcgggtcgac cgacttacgt ttcagctcca g
<210> 24
<211> 29
<212> DNA
<213> Artificial sequence
<220>
<223> Forward primer for amplification of SWLA3 VH chain
<220>
<221> misc_feature
<222> (5)..(10)
<223> SalI restriction enzyme cleavage site
<400> 24
gcgggtcgac gtgaagctgg tggagtctg
                                                                     29
<210> 25
<211> 30
<212> DNA
<213> Artificial sequence
<220>
<223> Reverse primer for amplification of SWLA3 VH chain
<220>
<221> misc_feature
<222> (10)..(15)
<223> NheI restriction enzyme cleavage site
<400> 25
                                                                     30
gggtgttgag ctagctgaag agacggtgac
<210> 26
<211> 24
<212> PRT
<213> Artificial sequence
```

```
<223> Synthetic linker for use in protegrin fusion protein
<400> 26
Leu Asp Pro Lys Ser Cys Glu Arg Ser His Ser Cys Pro Pro Cys Gly
               5
                                   10
Gly Gly Ser Gly Gly Gly Thr Ser
           20
<210> 27
<211> 72
<212> DNA
<213> Artificial sequence
<220>
<223> Synthetic linker for use in protegrin fusion protein
<400> 27
ctcgacccaa agagctgcga gcggagccac agctgcccac cgtgcggggg tgggtccggc
                                                                     60
ggtggcacta gt
                                                                     72
<210> 28
<211> 28
<212> DNA
<213> Artificial sequence
<220>
<223> Forward primer for amplification of SWLA3 VH chain/CH3 linker
<220>
<221> misc_feature
<222> (5)..(10)
<223> NheI restriction enzyme cleavage site
<400> 28
                                                                     28
gtgggctagc ctcgacccaa agagctgc
<210> 29
<211> 38
<212> DNA
<213> Artificial sequence
<220>
<223> Reverse primer for amplification of SWLA3 VH chain/CH3 linker
<400> 29
aggttctcgg ggctgcccac tagtgccacc gccggacc
                                                                     38
```

<220>

```
<210> 30
<211> 19
<212> DNA
<213> Artificial sequence
<220>
<223> Forward primer for amplification of human CH3 gene fragment
<400> 30
gggcagcccc gagaacaac
                                                                     19
<210> 31
<211> 33
<212> DNA
<213> Artificial sequence
<220>
<223> Reverse primer for amplification of human CH3 gene fragment
<220>
<221> misc_feature
<222> (7)..(12)
<223> PstI restriction enzyme cleavage site
<400> 31
                                                                     33
ggtggtctgc agtttacccg gggacaggga gag
```